

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

April 16, 1987

Adams
AK 0701
4/16/87
4e
STEVE COWPER, GOVERNOR

(907)452-1714

Northern Regional Office
P. O. Box 1601
Fairbanks, Alaska 99707


Mr. Alvin L. Ewing
Assistant Regional Administrator
U.S. Environmental Protection Agency
Alaska Operations Office
701 C Street, Box 19
Anchorage, Alaska 99513

Dear Mr. Ewing:

Enclosed with this letter are a copy of the report, Refinery Process Waste Water Details, and a portion of the report, Engineering Plan for Short Term Disposal of Refinery Process Waste Water, both prepared by MAPCO, Alaska Petroleum, Inc. for DEC and the City of North Pole. Unfortunately, these reports were not available prior to completion of the RCRA hazardous waste inspection report for the North Pole Refinery but they may be useful nevertheless. By way of this letter, I have also distributed copies of these reports to the people listed below.

Please contact me if you or your staff have any questions on this material.

Sincerely,



Jeff Mach
Environmental Field Officer

JM.deb

Enclosures

cc: Dixon McClary, EPA/Region X, Seattle
Bill Adams, EPA/Region X, Seattle
Glenn Miller, ADEC/Juneau

100.23.016

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ISSUED TO _____
REVISION _____

MAPCO ALASKA
PETROLEUM, INC.

1100 H&H LANE
NORTH POLE, ALASKA 99705

REFINERY PROCESS WASTE WATER DETAILS

PREPARED
FOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
MR. LARRY DIETRICK, NORTHERN REGIONAL OFFICE SUPERVISOR

AND

CITY OF NORTH POLE, ALASKA
HONORABLE CARLETA LEWIS, MAYOR

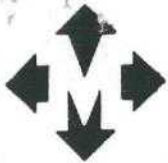
MARCH, 1987

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SECTION

1



MAPCO PETROLEUM Inc.

1100 H & H LANE,
NORTH POLE, ALASKA 99705
(907) 488-2741

LETTER OF INTRODUCTION

March 26, 1987

To Whom It May Concern:

We at MAPCO ALASKA PETROLEUM Inc. would like to thank Alaska Department of Environmental Conservation, Environmental Protection Agency and the City of North Pole for meeting with us and our retained consultant.

MAPCO is committed to comply with all EPA and ADEC regulations in treatment and disposal of process waste water. The information contained within this document is evidence of our commitment.

The purpose of our meeting today is to discuss and determine what is necessary to meet all requirements for pre-treatment and disposal of plant process waste water.

Sincerely,

MAPCO ALASKA PETROLEUM Inc.


G. E. Fritz
General Manager

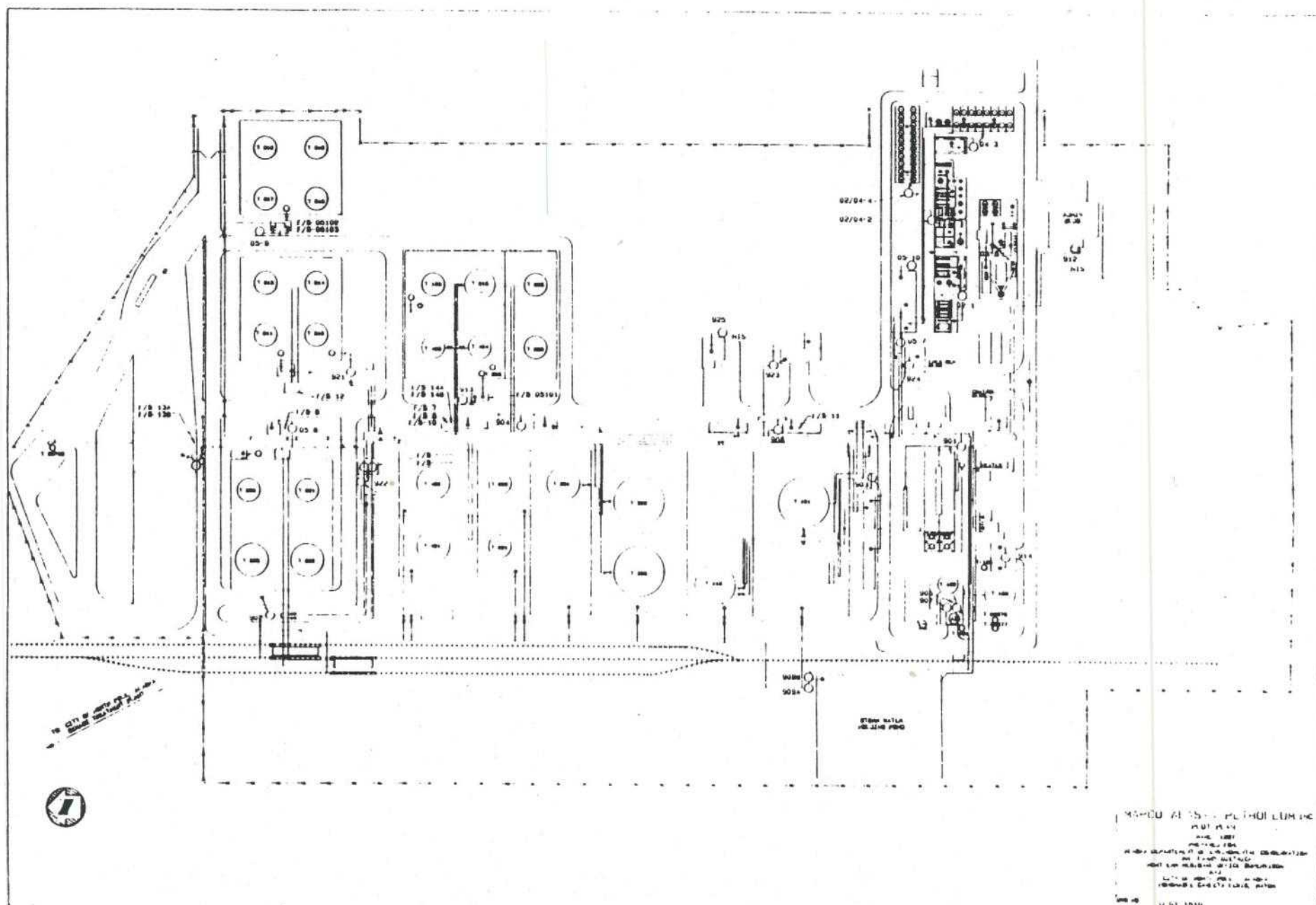
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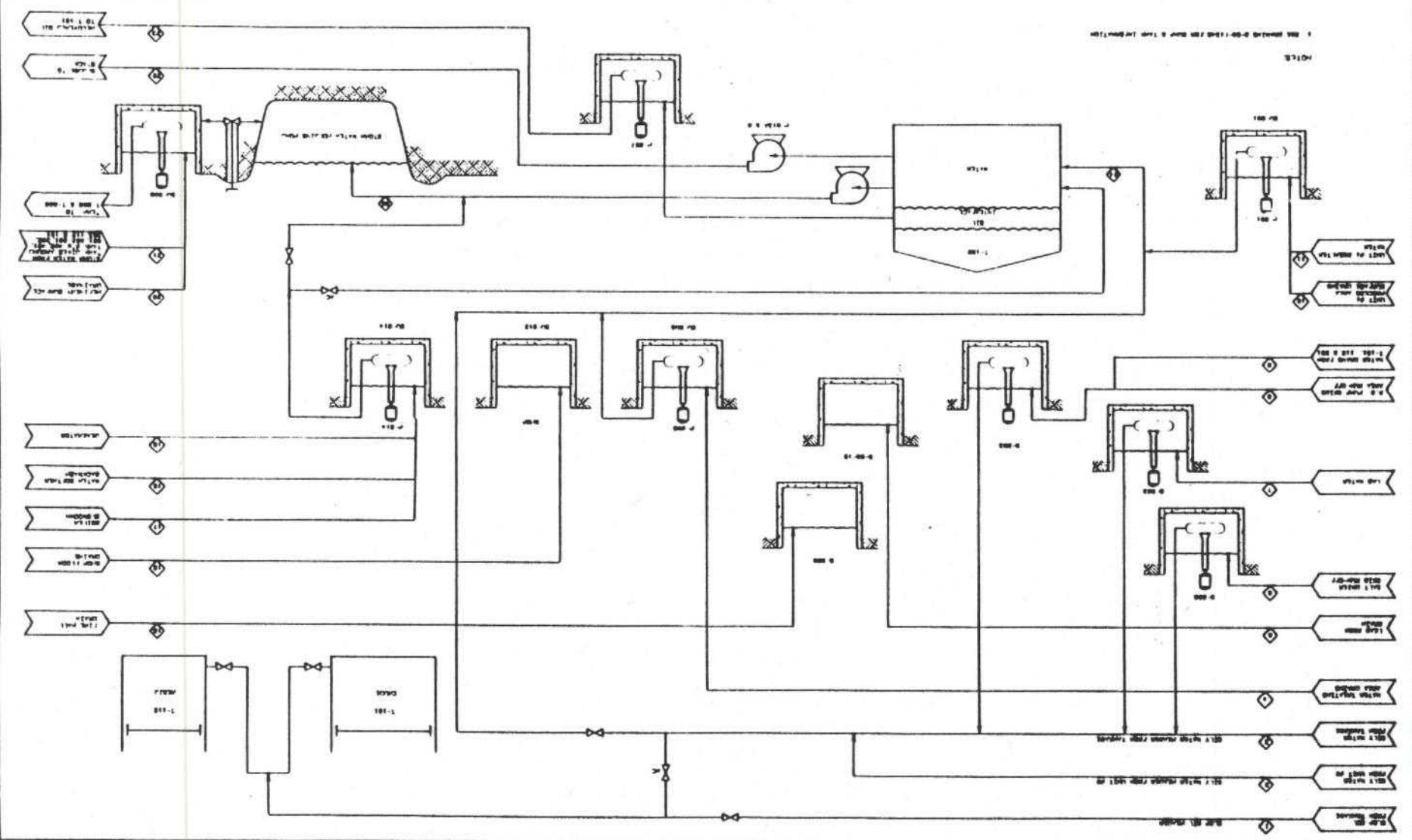
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	SUMP NO.	PUMP NO.	PIT DEPTH	PIPING PLAN	DETAIL PLAN	PUMP MODEL	SIZE	IMP DTA	GPM / HD	MOTOR NO.	H P	FORM	STALL
CRUDE UNIT SUMP	02-1	05101	8'	D-02-P1003	D-02/03 C1021 SHIT 162	GOM 05 3171	2.5 A 3 A BS	7.75	265/53		7.5	1800	A
CRUDE/SULFOLANE	02/04-2	05102	8'	D-02-P1015				7.75	265/53		7.5	1800	A
HOT OIL COOLING KERO	04-3	05103	8'	D-02-P1011				7.75	265/53		7.5	1800	A
COOLING KERO	02/04-4	05106	8'	D-04-P1013				7.75	265/53		7.5	1800	A
ASPHALT UNIT	02-7	05111	8'	D-03-P1002				7.75	265/53	LM-1858	7.5	1800	A
BLCHOLING BUILDING	02-7	05107	10'	D-02-P1057				7.75	265/53		7.5	1800	A
ASPHALT PUMP SKID	02-8	05104	8'	D-02-P1010			1.5 A 3 A 13	11	100/122		10	1800	A
RAS LOADING PUMP SKID	02-9	05105	8'	D-02-P1040			1.5 A 3 A 12	11	100/122		10	1800	A
LEAD INJECTION SUMP	02-10	NONE	8'	D-02-P1203		NONE	NONE	NONE	NONE		10	1800	A
PROCESS AREA	901		8' 17"	00-D-15064	SR B 14015	GOM 05 3171	2.5 A 3 A BS	6.75	175/40	LM-1468	5	1800	A
OLD TRUCK RACK	902		7' 13"	00-D-15022			1.5 A 3 A 13M	11	100/122	LM-1469	10	1800	A
TANK AREA #1 CHGS SKID	903		6'	0-05-P1071			2.5 A 3 A BS	8.125	180/70	LM-1470	7.5	1800	A
TANK AREA #2 SKID 2	904		6'	0-05-P1019			1.25 A 1.5 A BS	8.125	50/50	LM-1471		1800	A
EFFLUENT BLDG MATERIAL	905		6'	00-D-15085			1.25 A 1.5 A BS	8.125	50/50	LM-1501		1800	A
UTILMENT BLDG OIL IN	907		6'	00-D-15082			1 A 1.5 A BS	4.875	25/92	LM-1472		1800	A
SALE OIL SKID	908		6'	00-D-15075			1.25 A 1.5 A BS	8.125	50/50	LM-1474		1800	A
BIDDER MATCH TREATMENT	909A/B		18'	79006-21-5152 P			4 A 6 A 11M	8.125	50/50			1800	A
TANK 18M AREA 1 (1504)	911		8'	00-D-15089	D-02-P1035		1.5 A 2 A 11S	9.3125	50/50			1800	A
UTILITY BLDG	914		8'	0-05-P1098			1.25 A 1.5 A BS	8.125	50/50	LM-1486		1800	A
SCHVICK BLDG	912		8'	00-D-15093			1.25 A 1.5 A BS	8.125	50/50	LM-1472		1800	A
TANK AREA #3 (1-210)	921				D-02-P1032		1.25 A 1.5 A BS	8.125	50/50			1800	A
OLD MIL LOADING	922			TANKAGE - 914			1 A 1.5 A BS	8.125	50/50			1800	A
LAB AREA	923		10'									1800	A
GENERATION BLDG	924											1800	A
FIRE STATION SUMP	925											1800	A

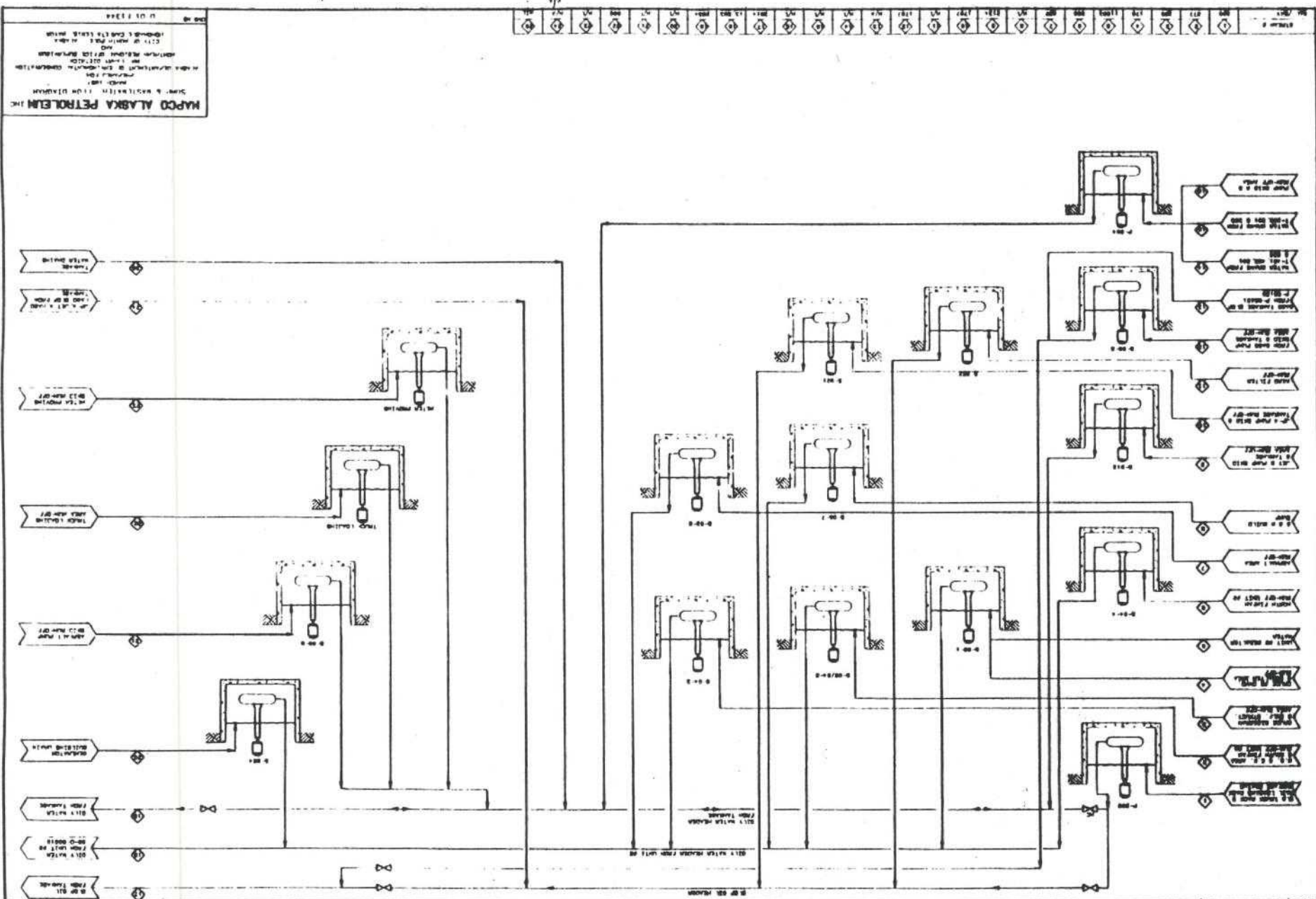
TANK NO	PRODUCT	CAPACITY / BBL	CAPACITY / GAL	DIAM & HT	FILL HT	BBL/FT	GAL/FT
101	CRUDE	55,100	2,314,200	102' X 41' 9"	38' 6"	1454	61,068
112	ACETIC	27,700	1,163,400	65' 6" X 40'	46' 6"	595	24,990
183	FIREWATER	18,150	762,300	60' X 40'	38' 0"	504	21,168
190	GLYCOL	360	15,120	12' X 19' 3"	18' 0"	19.8	831.6
191	POUR POINT OIL	688	28,812	12' X 32' 3"	34' 0"	20.8	873.8
192	OILY WATER	4,680	195,560	39' X 24'	22' 6"	204	8588
193	ALCOHOL	3000	125,000	24' X 32'			
201	KERO FLUSH						
302	KEROSENE	58,180	2,442,720	102' X 41' 9"	40' 0"	1454	61,068
303	KEROSENE						
401	LAGO	19,100	802,200	60' X 40'	38' 0"	504	21,168
402	LAGO	19,100	802,200	60' X 40'	35' 0"	504	21,168
403	LAGO	9,485	398,370	55' X 24'	22' 6"	422	17,724
404	LAGO	9,485	398,370	55' X 24'	22' 6"	422	17,724
501	JH-4	9,485	398,370	44' X 37' 6"	35' 0"	271	11,382
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629	JH-4	9,485	398,370	44' X 37' 6"	35' 0"	271	11,382
630	JH-4	9,485	398,370	44' X 37' 6"	35' 0"	271	11,382
631	JH-4	9,485	398,370	44'			



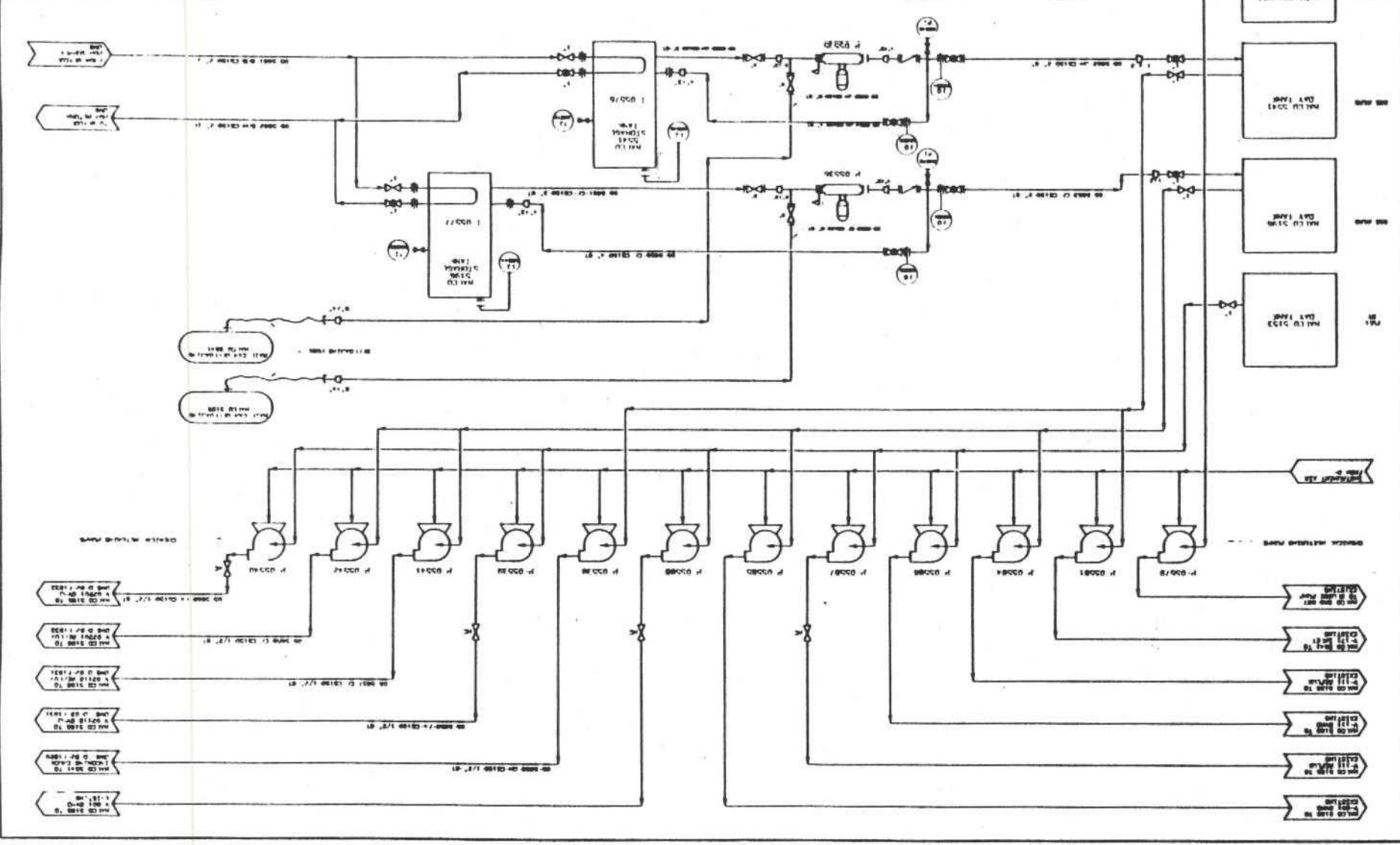
MAPCO ALASKA PETROLEUM, INC.
 SHEET NO. 1001
 PROJECT NO. 1001
 DATE: 10/1/81
 DRAWN BY: J. L. HARRIS
 CHECKED BY: J. L. HARRIS
 APPROVED BY: J. L. HARRIS
 TITLE: 1001-1001



1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499	1500	1501	1502	1503	1504	1505	1506	1507	1508	1509	1510	1511	1512	1513	1514	1515	1516	1517	1518	1519	1520	1521	1522	1523	1524	1525	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536	1537	1538	1539	1540	1541	1542	1543	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554	1555	1556	1557	1558	1559	1560	1561	1562	1563	1564	1565	1566	1567	1568	1569	1570	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599	1600	1601	1602	1603	1604	1605	1606	1607	1608	1609	1610	1611	1612	1613	1614	1615	1616	1617	1618	1619	1620	1621	1622	1623	1624	1625	1626	1627	1628	1629	1630	1631	1632	1633	1634	1635	1636	1637	1638	1639	1640	1641	1642	1643	1644	1645	1646	1647	1648	1649	1650	1651	1652	1653	1654	1655	1656	1657	1658	1659	1660	1661	1662	1663	1664	1665	1666	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689	1690	1691	1692	1693	1694	1695	1696	1697	1698	1699	1700	1701	1702	1703	1704	1705	1706	1707	1708	1709	1710	1711	1712	1713	1714	1715	1716	1717	1718	1719	1720	1721	1722	1723	1724	1725	1726	1727	1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775	1776	1777	1778	1779	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172
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MAPCO ALASKA PETROLEUM, INC.
 1. THESE LINES ARE TO BE USED FOR THE
 2. TRANSPORTATION OF CRUDE OIL FROM THE
 3. TANKS TO THE PROCESSING PLANT.
 4. THE LINES ARE TO BE DESIGNED FOR A
 5. FLOW RATE OF 10,000 BARRELS PER DAY.
 6. THE LINES ARE TO BE DESIGNED FOR A
 7. PRESSURE OF 100 PSI.
 8. THE LINES ARE TO BE DESIGNED FOR A
 9. TEMPERATURE OF 100°F.
 10. THE LINES ARE TO BE DESIGNED FOR A
 11. CORROSION RATE OF 0.001 INCHES PER YEAR.
 12. THE LINES ARE TO BE DESIGNED FOR A
 13. SEISMICITY OF 0.15 G.



SECTION

3

MAPCO PETROLEUM, INC.

NORTH POLE REFINERY LAGOON AND STORAGE TANK WASTEWATER ANALYSES

Sample Date: February 10, 1987

PARAMETERS	UNITS	ID#:	LAGOON			TANK 508		TANK 509		QUALITY CONTROL DATA		Result	True V (Rar
			Ice	Liquid	Sludge	Ice	Liquid	Ice	Liquid	METHOD †	QC Standard		
		Time:	021187-5	021187-1	021187-2	021187-7	021187-4	021187-6	021187-3				
			1345	1310	1345	1600	1645	1430	1550				
FIELD MEASUREMENTS:													
			Top/Bottom										
Color			Grey	Clear/Dark	Black	Clear	Black	Clear	Green	Observation			
Conductivity (field)	µmhos/cm			6000/6000	6000		2100		1500	YSI Conductivity/Salinity/Temperature Meter			
Dissolved Oxygen	mg/L			0.2/0.2	<0.1		<0.3		<0.3	YSI Dissolved Oxygen Meter			
Ice Thickness	Inches		18			31.5		34.5		Tape Measure			
Odor				"Sweet"	"Septic"		"Fuel"		"Fuel"	Observation			
pH	pH Units			10.1/8.4	8.4		7.3		7.7	Hanna Instruments "pH Pen"			
Salinity	‰			6.0/6.0	6.0		2.1		1.5	YSI Conductivity/Salinity/Temperature Meter			
Sample Depth	Feet			1.5/6.0	7.0		22		22	Tape Measure			
Temperature	°C			0.0/3.5	3.5		0.0		0.0	YSI Conductivity/Salinity/Temperature Meter			
LABORATORY ANALYSES:													
BOD5, Soluble	mg/L		33	290	220	40	220	6.0	18	SM 209C/507 (F) ††			
BOD5, Total	mg/L		38	290	2160	53	300	7.0	18	SM 507			
COD, Soluble	mg/L		250	1200	1220	175	1250	75	475	SM 209C/508 (F)			
COD, Total	mg/L		325	5350	16800	185	5750	100	475	SM 508			
Total Solids	mg/L		1530	7040	16100	1000	7220	362	3790	SM 209A			
Total Volatile Solids	mg/L		128	766	4280	154	684	137	375	SM 209D			
Total Suspended Solids	mg/L		13	14	11700	8.7	26	8.0	18	SM 209C (F)			
Volatile Suspended Solids	mg/L		7.3	8.3	4120	6.7	20	5.3	15	SM 209D (F)			
Total Dissolved Solids	mg/L		1517	7026	4400	991.3	7194	354	3772	By Calculation			
Volatile Dissolved Solids	mg/L		121	758	160	147	664	132	360	By Calculation			
Alkalinity (as CaCO3)	mg/L		140	610	990	120	680	44	440	EPA 310.1	EPA 384-2	17.5	(14.5 - 2
Ammonia	mg/L		1.9	11	25	1.1	8.3	<0.1	2.9	SM 417A & D			
Chloride	mg/L		745	3190	3370	488	3240	177	1750	EPA 325.3 (F)	EPA 384-2	11.1	(9.8 - 1
Conductivity (lab)	µmhos/cm		3200	6000	6200	1950	6500	740	3500	EPA 120.1			
Cyanide	mg/L			<0.01	<0.01		<0.01		<0.01	SM 412B & D	EPA WP179	0.238	(0.155 - 0.2
Nitrate	mg/L			<0.1	<0.1		<0.1		<0.1	EPA 352.1 (F)	EPA 384-2	0.15	(0.10 - 0
Nitrite	mg/L			<0.01	0.01		1.2		<0.01	EPA 354.1 (F)			
Oil & Grease, Total	mg/L		64	11	65	8.7	7.8	2.5	2.7	SM 503B	EPA WP379	21.1	(8.8 - 2
Oil & Grease, Floatable	mg/L		18							SM 206B †††			
pH (lab)	Units @ °C		7.9 @ 14	8.5 @ 14	8.3 @ 17	7.6 @ 18	7.3 @ 16	7.6 @ 18	7.5 @ 13	SM 423			
Phenols	mg/L			2.9	3.1		3.2		0.13	EPA 420.1	EPA 179.6	0.039	0.0
Phosphate, Total	mg/L		0.30	0.76	1.1	0.14	0.72	<0.10	0.34	SM 424F (F)	EPA 284.8	1.06	(1.05 - 1
Silica	mg/L		16	34	32	9.0	46	6.4	36	SM 425C (F)			
Sulfate	mg/L		19.1	89	70	<1.0	5.8	1.0	18.5	EPA 375.4 (F)	EPA 384-2	6.7	(4.49 - 9

Sulfide	mg/L	0.17	120	0.15	1.3	Electrode						
Metals:												
Arsenic	mg/L	<0.001	0.004	0.076	<0.001	0.007	<0.001	0.008	EPA 206.2	EPA 284-1	0.032	(0.020 - 0.044)
Calcium	mg/L	40.0	170	906	17.5	118	2.92	52.6	EPA 215.1	EPA 384-2	4.85	(4.52 - 5.18)
Cadmium	mg/L	0.005	0.008	0.064	0.021	0.011	0.006	0.005	EPA 213.1	EPA 284-2	0.039	(0.031 - 0.047)
Chromium, Hexavalent	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	EPA 218.4	EPA 284-2	0.237	(0.209 - 0.265)
Chromium, Total	mg/L	<0.01	<0.01	0.23	<0.01	<0.01	<0.01	<0.01	EPA 218.1	EPA 284-2	0.241	(0.209 - 0.273)
Copper	mg/L	0.04	<0.02	1.5	<0.02	<0.02	<0.02	<0.02	EPA 220.1	EPA 284-2	0.360	(0.302 - 0.418)
Iron	mg/L	2.62	1.44	679	0.95	2.58	0.24	0.64	EPA 236.1	EPA 284-2	0.859	(0.695 - 1.023)
Lead	mg/L	0.016	0.002	1.19	0.002	0.003	0.004	0.001	EPA 239.2	EPA 284-1	0.052	(0.034 - 0.070)
Mercury	mg/L	0.0012	<0.0002	0.0081	0.0012	<0.0002	0.0006	<0.0002	EPA 245.1	EPA 378-14	0.0039	(0.0032 - 0.0046)
Magnesium	mg/L	10.3	37.1	107	6.86	42.7	3.96	32.6	EPA 242.1	EPA 384-2	0.192	(0.137 - 0.247)
Manganese	mg/L	0.284	0.838	12.4	0.751	2.05	0.052	0.411	EPA 243.1	EPA 284-2	0.311	(0.304 - 0.318)
Potassium	mg/L	7.58	25.0	42.4	5.78	31.4	2.10	13.6	EPA 258.1	EPA 384-2	2.32	(1.70 - 2.94)
Sodium	mg/L	1110	1810	1850	955	2350	780	1540	EPA 273.1	EPA 384-2	0.828	(0.727 - 0.929)
Selenium	mg/L	<0.002	0.003	0.008	<0.002	0.006	0.004	0.004	EPA 270.2	EPA 284-1	0.011	(0.007 - 0.015)
Silver	mg/L	0.01	0.01	0.04	0.05	0.01	<0.01	<0.01	EPA 272.1	EPA 378-14	0.029	(0.021 - 0.037)
Zinc	mg/L	1.14	0.080	10.4	0.150	0.142	0.182	0.055	EPA 289.1	EPA 284-2	0.423	(0.381 - 0.465)
Purgeable Aromatics:								EPA 602/8020	Travel Blank			
Benzene	µg/L		2600	1.4		220		5.8			<0.2	5.3
Chlorobenzene	µg/L		<10	<0.3		<20		<1.0			<0.2	
1,2-Dichlorobenzene	µg/L		<20	<0.5		<40		<2.0			<0.4	5.0
1,3-Dichlorobenzene	µg/L		<20	<0.5		<40		<2.0			<0.4	5.3
1,4-Dichlorobenzene	µg/L		<15	<0.4		<30		<1.5			<0.3	4.2
Ethylbenzene	µg/L		160	<0.3		100		<1.0			<0.2	4.4
Toluene	µg/L		1700	0.73		770		2.6			<0.2	4.6
Xylenes	µg/L		680	<0.3		440		1.0			<0.2	

* Formed a very stable emulsion, value may be low.

† SM = Standard Methods, 16th Edition; EPA = EPA Methods for Chemical Analysis of Water & Wastes.

†† (F) = Filtered through a glass fiber (suspended solids) filter prior to analysis.

††† Modified Method.

Field measurements and samples were collected by Michael R. Pollen of Northern Testing Laboratories, Inc. and Michael Lecorchick of Shannon & Wilson, Inc.

Purgeable aromatics, cyanide, and grease & oil were run at Northern Testing Laboratories, Inc., Anchorage water quality laboratory.

All other laboratory analyses were run at Northern Testing Laboratories, Inc., Fairbanks water quality laboratory.

REPORTED BY:

Michael R. Pollen, President

DATE: February 26, 1987

SECTION

4

SECTION

5

WASTE WATER DISPOSAL AGREEMENT

THIS AGREEMENT made and entered into this _____ day of March, 1987, by and between MAPCO PETROLEUM Inc., an Alaska corporation (hereinafter referred to as "MPI"), and the City of North Pole, Alaska (hereinafter referred to as the "City");

WITNESSETH:

WHEREAS, MPI owns and operates a petroleum refinery in North Pole, Alaska, and desires to dispose of its pre-treated waste water from said refinery; and

WHEREAS, the City operates a lagoon system treatment plant in North Pole, Alaska for the treatment and disposal of such waste water; and

WHEREAS, MPI desires to dispose of and City desires to accept MPI's pretreated waste water at City's lagoon system treatment plant in North Pole, Alaska;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter stated, the parties agree as follows:

1. Disposal of Waste Water. MPI shall pay to the City for the disposal by MPI of approximately 3,000,000 gallons of tested, pretreated waste water in accordance with the following rate schedule:

\$3.10 per gallon for the first 1,000 gallons;
\$2.75 per gallon for the next 25,000 gallons;
\$2.20 per gallon for all gallons over the initial 26,000 gallons.

Actual gallons transferred shall be determined by MPI by tank strapping both before and immediately following the transfer. Payment for gallons transferred shall be made by MPI on a monthly basis for all waste water transferred to the City in the preceding month.

2. Disposal Procedures. MPI shall dispose of waste water presently stored in refinery tankage through the City's lagoon system treatment plant by way of truck or a temporary overland pipeline to be installed and maintained at MPI's expense.

3. Testing of Waste Water. Prior to initiating deliveries of waste water to the City, MPI shall obtain testing of samples of the pretreated waste water, and testing results shall be reviewed by the City advisor and Northern Testing Laboratories, Inc., or at MPI's option a similar outside consulting firm with experience in such testing procedures and interpretation of results. Upon completion of testing with favorable results, the waste water shall be transported by MPI to the City's lagoon area.

4. Compliance with Laws. In the treatment and disposal of its waste water, MPI shall comply with all applicable federal, state and local laws, rules and regulations, including but not limited to, regulations of the Environmental Protection Agency and the State of Alaska Department of Environmental Conservation.

5. Indemnification. MPI shall indemnify and hold harmless the City, its officers, representatives, agents or employees from and against any and all expenses, claims, damages or liabilities arising out of its storage, treatment or disposal of waste water prior to transfer of the same to the City, and the City shall indemnify and hold MPI, its affiliated companies and their officers, directors, employees, representatives and agents harmless from and against any and all expenses, claims, damages or liabilities arising out of its storage, treatment or disposal of the waste water after the transfer of the same to the City.

6. Representations and Warranties of MPI. MPI represents and warrants to the City as follows:

A. MAPCO PETROLEUM Inc. is a corporation, duly organized and existing and in good standing under the laws of the State of Alaska, and is duly authorized to conduct business in the State of Alaska.

B. MPI has full power to execute and perform this Agreement and to transfer the waste water as herein provided, and such execution and performance does not conflict with any provisions of its Articles of Incorporation or By-Laws, or with any contract to which it is a party or to which it is subject. The execution and delivery of this Agreement and all of the transactions provided for in this Agreement have been duly authorized by MPI and are and will be in all respects legally binding upon MPI.

7. Representations and Warranties of City. City represents and warrants to MPI as follows:

A. City is a municipality duly organized and existing under the laws of the State of Alaska and in accordance with the ordinances of the City of North Pole.

B. City has full power and authority to execute and perform this Agreement and its lagoon system treatment plant has full capacity to accommodate MPI as herein provided. The execution and performance of this Agreement does not conflict with any provisions of its City Charter, ordinances or with any contract to which it is a party or to which it is subject.

The execution and delivery of this Agreement, and all transactions provided for in this Agreement, have been duly authorized by the City Council and are and will be, in all respects, legally binding upon the City.

8. Miscellaneous.

A. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Notwithstanding the foregoing, neither party shall assign this Agreement in whole or in part, without the prior written consent of the other party.

B. This Agreement shall be construed according to the laws of the State of Alaska and the parties hereto agree to be subject to the jurisdiction of the State and Federal courts located therein.

C. All warranties, representations and agreements contained in this Agreement shall survive the execution and delivery of all documents required hereunder and the payment of all sums required hereunder.

D. Any notices, requests and demands relating to this Agreement shall be in writing and shall be deemed to have been duly given if personally delivered or if deposited in the United States mails, postage prepaid, return receipt requested, (1) if to MPI, at 1100 H & H Lane, North Pole, Alaska 99706, Attention: Gerald E. Fritz, or at such other address as MPI may have furnished to City in writing, or (2) if to City, at P.O. Box 55109, North Pole, Alaska 99705, Attention: Mayor of the City of North Pole, or such other address as the City may have furnished to MPI in writing.

E. The captions used herein are for convenience only and are not a part of this Agreement, and shall be disregarded for purposes of construction.

F. This Agreement may be executed in counterpart originals, each of which shall be deemed as original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

"CITY"

City of North Pole, Alaska

"MPI"

MAPCO PETROLEUM Inc.

By

Carleta Lewis
Mayor of the City of
North Pole, Alaska

By

A. L. Wright, Jr.
Vice President